European Investment Bank

12/12/2025

Environmental and Social Data Sheet

Overview

Project Name:	IPTO NORTH EAST AEGEAN INTERCONNECTION
Project Number:	2025-0178
Country:	Greece
Project Description:	Interconnection of the islands regions of Lemnos, Lesvos, Chios, Samos, and Skyros to the mainland transmission grid (via Nea Santa in the area of Thrace to the north, and via Aliveri in the Evia island to the east), and to the Dodecanese islands grid (via Mastichari in the Kos island to the south). The connection will be mainly established through alternating current (AC) 150 kV cable interconnectors and 150 kV gas insulated (GIS) substations.
E&S Risk categorisation:	High (as per paragraph 4.18 of E&S Policy)

Project included in Carbon Footprint Exercise [1]: yes

(Details for projects included are provided in section: “EIB Carbon Footprint Exercise”.)

Environmental and Social Assessment

Environmental Assessment

The project includes the following components:

- a 37 km 150 kV AC single circuit overhead transmission line that will interconnect the extra high voltage (“EHV”) (400/150 kV) substation (“S/S”) Nea Santa with a new switching S/S in Thrace;
- seven 150 kV AC cables (overall 861.4 km, out of which 764 km subsea and 97.4 km underground) interconnecting the new Thrace S/S to Lemnos, West Lesvos, Chios, Samos and Kos, as well as Aliveri to Skyros and West Lesvos; all the links will include 3 power cables (one per each AC phase) and 2 communication cables (48 fiber optic cables each);
- seven 150 kV substations (Gas Insulated Switchgear “GIS”): one in Thrace, two in Lesvos (West Lesvos and Mytilene) and one in each of the islands Lemnos, Skyros, Chios, and Samos;
- the extension of the existing 400/150 kV AIS substation in Nea Santa and of the existing 400/150 kV GIS substation Aliveri;
- a 36 km 150 kV AC double circuit overhead transmission line in Lesvos Island (between West Lesvos and Mytilene).

The Promoter is the Independent Power Transmission Operator S.A. (IPTO), the Greek electricity Transmission System Operator (TSO). IPTO was established in 2011 and is responsible for the operation, control, maintenance and development of the Hellenic Electricity Transmission System (HETS).

[1] Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO2e/year absolute (gross) or 20,000 tonnes CO2e/year relative (net) – both increases and savings.

The project was subject to Strategic Environmental Assessment (SEA) in the context of the Promoter's Ten-Year Network Development Plans (TYNDP) 2020-2029 and 2021-2030, approved by the Ministry of Environment and Energy.

Legislative framework applicable to the Project

Law 4014/2011, concerning environmental consent for works and activities, environmental regulation of structures erected without planning permission and other provisions, transposed the EIA Directive 2011/92/EU, as amended by Directive 2014/52/EU, into the national legislation.

Overhead power transmission lines with voltage level 50kV ≤ V ≤ 150kV and length ≥ 15km, together with their accompanying facilities (including substations and other associated high voltage infrastructure) fall under Category A2 of Law 4014/2011 [2], corresponding to Annex II of the EIA Directive. According to the National requirements, for this category, an Environmental Impact Assessment (EIA) study must be prepared and submitted to the Directorate of Environment and Spatial Planning of the concerned Region, which is the competent Authority in charge for issuing the Decision of Approval of Environmental Conditions (DAEC).

Realization of substations with voltage level 50kV ≤ V ≤ 150kV (including electromechanical equipment, buildings, and all other associated infrastructure) fall under Category B of Law 4014/2011 [3], i.e. works characterised by localised and non-significant environmental impacts, and require Standard Environmental Commitments (SEC), which is a simplified procedure of environmental permitting. The competent authority for issuing the SECs is the Directorate of Environment & Spatial Planning of the concerned Region.

Underground and submarine cables having the potential to affect a protected area of the Natura 2000 network are subject to an Appropriate Assessment (AA) in line with Article 6.3 of the Habitats Directive. In this case, a "special environmental assessment" study is submitted to the management unit of the relevant protected areas of the Natural Environment Climate & Change Agency (NECCA), which is the competent authority in charge for the release of the approval decision.

Environmental impact assessment process

As required by Law 4014/2011 for category A2 project infrastructure, the Promoter has prepared a combined EIA study covering:

- the 37 km 150 kV overhead transmission line Nea Santa – Thrace S/S,
- the 150 kV underground / submarine cables Thrace – Lemnos – West Lesvos,
- the new 150 kV GIS substations of Thrace, Lemnos and West Lesvos.

The study also included, as an annex, the analysis of the cumulative impacts due to the realization of the 150 kV underground / submarine cables West Lesvos – Skyros – Aliveri.
The EIA study was submitted on 20.12.2024 to the Directorate of Environment and Spatial Planning of both the concerned Regions:

- the Decentralized Administration of Macedonia-Thrace;
- and the Decentralized Administration of the Aegean Region.

Since the overhead transmission line (the part of the project subject to environmental assessment) is located in Thrace, the Decentralized Administration of Macedonia-Thrace is

[2] According to the Ministerial Decree (M.D.) 1958/2012 (B´ 21) "Classification of public and private projects and activities into categories and subcategories in accordance with art. 1 par. 4 of Law 4014/21.09.2011 (A' 209/2011)", as amended by 64712/4464, G.G. 3636/B/11-7-2022, and 53510/3616, G.G. 3327/B/19-05-2023. More specifically, projects and activities of category A under group 11 "Transmission of energy, fuels and chemicals", case 10 "Overhead power transmission lines with their accompanying facilities (substations and extra-high voltage centers)", subcategory A2 (50kV ≤ operating voltage ≤ 150kV and L ≥ 15km).

[3] According to the Ministerial Decree (M.D.) 169810/2013 "Standard Environmental Commitments for projects and activities of category B of group 11 "Energy, fuels and chemicals transmission", case 11 "Individual extra high voltage centres and individual substations on the ground surface (extension of existing substations is included) with operating voltage from 50 kV up to 150 kV" of Annex XI of M.D. 1958/2012 (G.G. 21/B')".

responsible for issuing the DAEC permit, following the assessment procedure carried out in coordination with the Decentralized Administration of the Aegean Region.

The Promoter estimates that the DAEC will be granted by June 2026.

Another combined EIA study is under preparation, as required by Law 4014/2011 for category A2 project infrastructure, for:

- the 36 km 150 kV double circuit overhead transmission line West Lesvos – Mytilene,
- and the new 150 kV GIS substation of Mytilene.

Based on the current schedule, the EIA study will be submitted to the Directorate of Environment and Spatial Planning of the Decentralized Administration of the Aegean Region by Q1 2026, while the DAEC is expected by Q4 2026.

All the other components of the project are not listed under either Annex I or Annex II of the EIA Directive and do no need an EIA according to national legislation.

The 150 kV cables Thrace – Lemnos – Lesvos, Lesvos – Skyros – Aliveri, Lesvos – Chios, and Samos – Kos are subject to an AA because they are expected to cross protected areas of the Nature 2000 network (some of which host the priority habitat Posidonia beds, along with other protected habitats and species), namely:

- GR1110013 “THALASSIA PERIOCHI THRAKIS”,
- GR1130009 “LIMNES KAI LIMNOTHALASSES TIS THRAKIS – EVRYTERI PERIOCHI KAI PARAKTIA ZONI” [4],
- GR4110006 “LIMNOS LIMNES CHORTAROLIMNI KAI ALYKI KOLPOS MOUDROU ELOS DIAPORI KAI CHERSONISOS FAKOS NISOS SERGITSI KAI NISIDES DIAVATES KOMPIOKASTRI, TIGANI, KARKALAS, PRASONISI KAI THALASSIA PERIOCHI”,
- GR4110016 “THALASSIA PERIOCHI DYTIKIS LESVOU”;
- GR4110004 “LESVOS: KOLPOS KALLONIS KAI CHERSAIA PARAKTIA ZONI”,
- GR4110007 “LESVOS PARAKTIOI YGROTOPOI KAI KOLPOS KALLONIS”;
- GR2420009 “NISIDES SKYROU KAI THALASSIA PERIOCHI”;
- GR4130001 “VOREIA CHIOS KAI NISOI OINOUSSES KAI PARAKTIA THALASSIA ZONI”;
- GR4210019 “NISIDES KALYMNOU: EPANO NERA, SARI, TELENDOS KAI THALASSIA PERIOCHI”.

As recalled above, the study for the AA of the link Aliveri – Skyros – Lesvos was annexed to the EIA for the interconnection Nea Santa – Thrace – Lemnos – Lesvos. It was also submitted on 30.06.2025 to the NECCA, that issued a positive opinion with conditions on 08.09.2025.
The AA study report for the interconnection Samos – Kos was submitted in July 2025 to the NECCA, which, in October 2025, issued a positive opinion with conditions.

The AA study report for the interconnections Lesvos – Chios was submitted to the NECCA in September 2025, and the relevant opinion is expected by the end of 2025.

Regarding the 150 kV GIS substations:

- the Standard Environmental Commitment (SEC) for Skyros SS was already issued on 29/10/24;
- the environmental study for Samos S/S will be submitted in early December 2025, while the environmental study for Chios S/S is expected to be submitted by the end of 2025. The issuance of relevant SEC for the two substations is expected by Q1 2026.

The authorization for use of seashore [5], as well as secondary permits/licences such as building permits and licence for excavations will be requested to the relevant authorities following the issuance of the environmental permits.

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[4] The area includes the Lake Ismarida (Mitrikou) RAMSAR site.

[5] The process of issuance of permits for seashore and adjacent sea areas includes the submission of required studies to the relevant authority for review and approval and upon the completion of this procedure, the Ministry of Finance issues the amount that shall be paid by IPTO so as to receive the permit.

The management of waste generated by the project will follow sustainable waste management practices, in line with the applicable EU directives and Greek legislation.

Potential impacts and mitigation measures

Based on the EIA study conducted for the link Nea Santa – Thrace – Lemnos – West Lesvos, the following potential impacts are highlighted.

- The OHL route in Thrace and the relevant intervention areas are located mainly in a lowland area consisting of agriculturally cultivated areas, except for a small part with forest vegetation.
- Line routes and substation sites are outside of areas of residential use.
- Subsea and underground cable lines crossing the above listed Natura 2000 areas are compatible with the uses allowed in these specific areas [6].
- In the EIA it is mentioned that the project (namely the underground cable in the region of Thrace), will be located within the CORINE biotope ("Lake Mana (Mitrikou)", code A00010003) [7], but it will not have any significant impacts on sensitive habitats present in the area.
- In the region of Thrace, part of the submarine cable's route will cross an important area for Marine Mammals named "Thracian Sea and Thrace Coast" and specifically for the species Phocaena. However, gradual increase in intensity during cable installation activities will be ensured so that sensitive mammal species have the opportunity to move away from the area till the end of the works.

Regarding the line West Lesvos – Mytilene (EIA currently under preparation), potential impacts are related to the OHL which will cross the Natura 2000 area "OROS OLYMPOS LESVOS", which is designated as a special protection area under the Birds Directive and a site of community importance (SCI) under the Habitats Directive, known for its rich forests of Calabrian pine and chestnut trees, diverse bird species, and other significant fauna and flora.

It is also noted that several sections of all the submarine cables will cross Posidonia oceanica fields. Therefore, cable laying activities will be designed to minimise the impact on Posidonia fields. The project also provides for restoration measures, including Posidonia meadows monitoring (5 years lookahead).

Mitigation measures resulting from the EIA studies and from the special environmental studies prepared for the AA of the cables will also include:

- the use of appropriate work and waste management practices during construction to prevent any pollution at land and sea,
- to protect vegetation from fire and to minimise intervention in forest areas and disturbance during construction (noise, dust),
- during earthworks, the greatest possible reduction in dust dispersion should be sought, by wetting the soil in the event of adverse weather conditions, so that the functions of the flora species adjacent to the project are not degraded due to dust coverage,
- excavation works in potentially archaeologically sensitive areas, will be supervised by designated professionals and, in the event of findings of antiquities, works will be suspended, and a rescue excavation and survey shall be carried out,
- to stop all disruptive construction work during the critical breeding season of important breeding species,
- restoration of the sites condition following works (appropriate environmental restoration studies will also be conducted as part of the environmental management plans),
- inclusion in the project's traffic management plan of provision for low-speed vehicle traffic, to avoid accidents with reptile species.
- preventive maintenance, leak detection and repair programs shall be implemented for the equipment of the cable laying vessels that may cause unwanted leakage,

[6] According to "derogation of Presidential Decree 59/2018".

[7] It is a natural freshwater lake on the Thracian coast, where the river Filiouris flows into the sea. To the west, the lake is bordered by arable plain and to the east by a salt marsh and a flood zone with smaller lakes and old riverbeds.

- cable route designed to avoid impacts on habitats and benthic species that are more sensitive to disturbance or of particular ecological interest,
- implementation of measures to reduce underwater noise emissions during cable excavation and installation,
- choose a burial depth appropriate for the type of substrate in order to reduce the exposure of sensitive species to electromagnetic fields and heat emission,
- all schemes have been designed to comply with EMF exposure limits as well a noise limits as defined in national legislation (EMF studies carried out show that the project electromagnetic fields will be well below the prescribed limits),
- measurements of noise will be taken during operation to certify that noise limits are within the boundaries set by legislation.

Main monitoring measures will include:

- monitoring and recording of the construction sites, including management of the earthworks resulting from excavation works, as well as of the construction materials and waste (liquid and solid),
- monitoring the level of marine noise during the laying of the subsea cables
- monitoring the observance of the measures concerning the limitation of gaseous and particulate pollutants,
- monitoring the quantity of used mineral oils produced during the operation of the project (used mineral oils) at the substations, as well as keeping a record of their disposal to the competent management bodies,
- monitoring the levels of electromagnetic radiation at the substations and in the section of the cables passing through residential areas,
- monitoring the noise levels at the substations
- during the subsea cable's operation phase, the evolution of bio-communities in deep waters will be monitored in order to record any colonization of the cable trenches by species expected to be found in the area.

The environmental studies indicate that, with the above-described mitigation measures in place, the project would neither have significant adverse effects on the environment nor adversely affect the integrity of any protected areas. The absence of adverse impacts and the adequacy of the associated mitigation measures are yet to be confirmed by the competent authorities in their approval decisions.

Project physical climate risks and Paris alignment

Physical climate change risks relevant to the area of the project identified in the EIA, i.e. temperature increase, heat waves, precipitation increase, flooding, sea level rise, landslides, high winds, drought, wildfires, low temperatures, are mitigated in the design stage, by adapting - as necessary - the design or the location of the equipment.

The Promoter is experienced in projects of this nature, and is deemed to have the capacity to manage all the mitigation and monitoring measures identified during the EIA process and other primary consent/permit application documents.

The project has been assessed for its Paris alignment. It is considered to be aligned for low carbon and adaptation, in line with the policies set out in the Climate Bank Roadmap and with the Bank's Energy Lending Policy. The project is expected to generate positive environmental impacts by enabling the replacement of polluting local power generation and the integration of additional Renewable Energy Sources (RES), supporting national and EU decarbonisation targets.

EIB Carbon Footprint Exercise

The source of CO_2 equivalent (CO_2e) emissions for the project is network losses associated with the new network equipment. At project completion, the corresponding absolute emissions are estimated to be 38.7 kt of CO_2e/year. These absolute emissions are offset by the reduction of emissions thanks to the decommissioning of polluting power generation in the relevant islands in comparison to the do-nothing alternative. Therefore, at completion, the project is expected to enable a saving of circa 190.4 kt of CO_2e.

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

Social Assessment, where applicable

The Promoter has proceeded with the collection of cadastral data in order to proceed with the procedures of purchase of land (or in some cases stipulation of leasing agreements), or expropriation, upon the issuance of the relevant environmental permits.
For the 150 kV GIS substation of Skyros, the expropriation application has already been submitted in May 2025.

Landowners will be compensated in line with the national legislation.

Public Consultation and Stakeholder Engagement

The project has been included in the Promoter's Ten-Year Network Development Plan (TYNDP) since 2021. The Strategic Environmental Assessment for the TYNDP 2021-2030 underwent public consultation. The Project was also included in the TYNDP 2024-2033, which was under public consultation by the Regulatory Authority for Energy, Waste & Water (RAEWW) from 27/10/2023 until 27/11/2023[8].

The public consultation of the EIA for the interconnection Nea Santa – Thrace – Lemnos – Lesvos, carried out in line with Law 4014/2011, is in an advanced stage and according to the promoter is to be completed in December 2025.

The public consultation for the link West Lesvos – Mytilene will be launched after the submission of the relevant EIA study to the Directorate of Environment and Spatial Planning of the Decentralized Administration of the Aegean Region.

Conclusions and Recommendations

At this stage, formal responses from the competent authorities are still outstanding for all the permit applications and the associated assessments under the EIA and Habitats Directives, therefore the project is expected to be acceptable in environmental, climate and social terms for the Bank's financing subject to the following conditions:

Disbursement conditions:

- The disbursement related to each project component is subject to evidence, satisfactory to the Bank, that the EIA and AA, where applicable to the relevant component, have been approved by the competent authorities. Evidence shall include copy of the relevant approval decisions.

Undertakings:

the Promoter undertakes:

- to send to the Bank, for schemes requiring an EIA and/or an AA, an electronic copy of the relevant approved EIA/AA reports, consultation documents, and approval decisions, as soon as each scheme is approved by the competent authority;
- to send to the Bank any amendments to the Decision of Approval of Environmental Conditions (DAEC), along with the relevant supporting documentation, as required by modifications to the project design.

[8] IPTO has submitted again the Project to RAEWW with the new TYNDP 2025-2034 and is waiting for the regulator to start public consultation.